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To: Commissioner for Patents for Examiner Zoila E. Cabrera Group Art Unit 2125	Facsimile No.: 703/872-9306
From: Lourdes T. Perez for Carrie Parker Legal Assistant to Betty Formby	No. of Pages Including Cover Sheet: 28
<b>Message:</b>  Enclosed herewith: <ul style="list-style-type: none"><li>• Transmittal Document; and</li><li>• Appeal Brief.</li></ul>	
Re: Application No. 10/004,948 Attorney Docket No: AUS920010641US1	
Date: Wednesday, February 16, 2005	
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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Longnecker et al.

Serial No.: 10/004,948

Filed: December 05, 2001

For: Universal Server Farm Mass  
Custom Design Tool

35525

PATENT TRADEMARK OFFICE  
CUSTOMER NUMBER§  
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Group Art Unit: 2125

Examiner: Cabrera, Zoila E.

Attorney Docket No.: AUS920010641US1

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By:

Lourdes T. Perez

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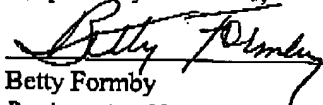
Sir:

ENCLOSED HEREWITH:

- Appeal Brief (37 C.F.R. 41.37).

A fee of \$500.00 is required for filing an Appeal Brief. Please charge this fee to IBM Corporation Deposit Account No. 09-0447. No additional fees are believed to be necessary. If, however, any additional fees are required, I authorize the Commissioner to charge those fees which may be required to IBM Corporation Deposit Account No. 09-0447. No extension of time is believed to be necessary. If, however, an extension of time is required, the extension is requested, and I authorize the Commissioner to charge any fees for this extension to IBM Corporation Deposit Account No. 09-0447.

Respectfully submitted,



Betty Formby

Registration No. 36,536

AGENT FOR APPLICANTS

Duke W. Yee

Registration No. 34,285

YEE &amp; ASSOCIATES, P.C.

P.O. Box 802333

Dallas, Texas 75380

(972) 385-8777

ATTORNEY FOR APPLICANTS

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**Docket No. AUS920010641US1**

**FEB 16 2005**

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of: Longnecker et al.

Serial No. 10/004,948

Filed: December 5, 2001

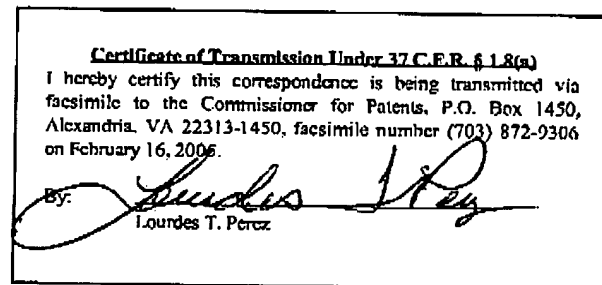
For: Universal Server Farm Mass  
Custom Design Tool

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Group Art Unit: 2125

Examiner: Cabrera, Zoila E.

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450



**APPEAL BRIEF (37 C.F.R. 41.37)**

This brief is in furtherance of the Notice of Appeal, filed in this case on December 16, 2004.

The fees required under § 41.20(B)(2), and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

(Appeal Brief Page 1 of 26)  
Longnecker et al. - 10/004,948

**REAL PARTY IN INTEREST**

The real party in interest in this appeal is the following party: International Business Machines Corporation (IBM).

**RELATED APPEALS AND INTERFERENCES**

With respect to other appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there are no such appeals or interferences.

**STATUS OF CLAIMS**

**A. TOTAL NUMBER OF CLAIMS IN APPLICATION**

Claims in the application are: 1-36

**B. STATUS OF ALL THE CLAIMS IN APPLICATION**

1. Claims canceled: 3-4, 10-11, 17-18, 24-25
2. Claims withdrawn from consideration but not canceled: NONE
3. Claims pending: 1-2, 5-9, 12-16, 19-23, and 26-36
4. Claims allowed: NONE
5. Claims rejected: 1-2, 5-9, 12-16, 19-23, and 26-36
6. Claims objected to: NONE

**C. CLAIMS ON APPEAL**

The claims on appeal are: 1-2, 5-9, 12-16, 19-23, and 26-36

**STATUS OF AMENDMENTS**

The response to office action filed on 07/27/04 was the last paper in which claims were amended. This amendment was entered. No amendments were submitted after the final rejection.

(Appeal Brief Page 5 of 26)  
Longneckr et al. - 10/004,948

### **SUMMARY OF CLAIMED SUBJECT MATTER**

#### **A. CLAIM 1 - INDEPENDENT**

The subject matter of claim 1 is directed to a method for producing a drawing of components and connections needed to implement a desired system. A flowchart showing the method for producing the drawing is depicted in **Figure 6**, discussed from pages 15, line 20 through page 17, line 12. The method comprises

receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network; This step is shown in steps 604-608 of **Figure 6**, discussed on page 16, lines 2-16. The graphical user interface (GUI) used to gather the information is shown in **Figures 5A-5N**.

automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system;

generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system; Both the determining and generating steps are intertwined and are shown in steps 609-620 of **Figure 6**, discussed on page 16, line 13 through page 17, line 5.

sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system. The sending step is shown as step 621 of **Figure 6**, discussed on page 17, lines 7-10.

#### **B. CLAIM 5 - DEPENDENT**

The subject matter of dependent claim 5 is directed to generating the drawing of the desired system, shown in the application on page 4, lines 18-22.



**C. CLAIM 7 – DEPENDENT**

The subject matter of dependent claim 7 is directed to referencing a set of policies that must be satisfied in order for the desired system to function properly, shown in the application on page 11, lines 19-29.

**D. CLAIM 8 - INDEPENDENT**

The subject matter of claim 8 is directed to a computer program product in a computer readable media for use in a data processing system for producing a drawing of components and connections needed to implement a desired system. The claim is a computer program product claim counterpart to method claim 1.

**E. CLAIM 15 - INDEPENDENT**

The subject matter of claim 15 is directed to a system for producing a drawing of components and connections needed to implement a desired system. The claim is a system claim counterpart to method claim 1.

**F. CLAIM 22 - INDEPENDENT**

The subject matter of claim 22 is directed to a system for producing a drawing of components and connections needed to implement a desired system. The claim is a means plus function system claim counterpart to method claim 1.

**GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

**A. GROUND OF REJECTION 1 (Claims 1, 2, 5-9, 12-16, 19-23, and 26-36)**

Claims 1, 2, 5-9, 12-16, 19-23, and 26-36 stand rejected under 35 U.S.C. § 102(e) as anticipated over O'Sullivan (U.S. Application Publication 2003/0065758) or in the alternative under 103(a) as obvious over Flansburg et al. (U.S. Patent 6,393,432).

**B. GROUND OF REJECTION 2 (Claims 6, 13, 20, and 27)**

Claims 6, 13, 20, and 27 stand rejected under 35 U.S.C. § 103 as obvious over O'Sullivan.

## **ARGUMENT**

### **A. GROUND OF REJECTION 1 (Claims 1, 2, 5-9, 12-16, 19-23, and 26-36)**

It is first noted that this rejection, as presented in the final office action of 10/20/2004, is confusing. Although the rejection asserts that it is primarily an anticipation rejection, the discussion admits that "Sullivan does not specifically disclose a drawing program", which would appear to move this rejection out of the proper realm of a 102 rejection. At the same time, the alternative rejection is asserted to be an obviousness rejection over Flansburg alone, while the discussion mentions the reason why the combination of Flansberg and Sullivan would be obvious. The undersigned agent will treat this as a 102 rejection with an alternative 103 rejection over O'Sullivan in view of Flansburg.

#### **A1. Claims 1, 2, 6, 8-9, 13, 15-16, 20, 22-23, 27, 29-36**

Representative claim 1 recites,

1. (Previously Presented) A method for producing a drawing of components and connections needed to implement a desired system, the method comprising:

receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network;

automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system;

generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system; and

sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system.

**102(e) over O'Sullivan**

The arguments regarding the anticipation rejection over O'Sullivan are based on the following ruling of the Federal Circuit:

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990).

All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994).

Anticipation focuses on whether a claim reads on the product or process a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983).

In the final office action, the rejection of these claims states,

Regarding Claims 1, 8, 15 and 22 O'Sullivan discloses a method, a computer program product and a system for producing a drawing of components and connections needed to implement a desired system, comprising:

receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network; (Page 2, [0027] lines 1-13; [0025], lines 4-6; [0024]); automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system; (Page 2, [0030]; [0032]-[0033]); generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system (Fig. 2); and sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system (Fig. 2, [0028]).

O'Sullivan discloses a method for designing network interconnect fabric and interconnection modules that is adaptable to be used as a computer-aided design tool for networks (Page 1, [0009], lines 1-3; Page 2, [0028], please note that any computer-aided design tool would include a drawing program. However, O'Sullivan does not specifically disclose a drawing program.

The cited portions of O'Sullivan, as well as cited Figure 2, are shown below. Because these sections are somewhat long, underlining is added to emphasize certain statements.

[0009] The present invention provides a method for designing network interconnect fabric and interconnection modules that is highly automated and develops cost-effective design of interconnection fabrics while simultaneously satisfying network performance requirements. In addition, embodiments of the disclosed invention are adaptable to many levels of network design problems and can be adaptable to operate in any design environment.

[0024] This discussion of this embodiment of the present invention describes a method for automated design of an interconnection fabric between a given set of source nodes and a given set of terminal nodes. While the problem to which this solution applies is found in an enormous number of applications, the design of computer and computer-related networks is particularly applicable. Fiber Channel Storage Area Networks (SAN), as a most particularly applicable example, can be highly complex and expensive constructions. The many different design possibilities of such a network can have a wide variety of costs of construction and a poor design can slow performance characteristics and communication between devices or waste money in unnecessary over-provisioning and higher management costs.

[0025] This discussion of this embodiment of the present invention will focus on the design of SANs for the reason that these networks tend to be complex, costly and their performance in terms of speed is critical. As such, it is important for a SAN design to meet performance requirements in a cost-effective way.

[0027] In a SAN fabric design problem, a designer is given a set of sources, or host computers; a set of targets, or storage devices, and a set of required flows between them which are expressed in terms of request rates in bandwidth, generally measured in MBps. An interconnect fabric must be built to simultaneously support these flow requirements. The fabric, connecting hosts and devices, can be constructed from a set of available nodes which can be hubs, switches, routers and the like; adapters, such as Fiber Optic-to-PCI cards, and links, such as optical fiber cables or other communication media. The objective of the design problem is to design a fabric consisting of these components which meets the flow requirements at the minimum cost. This embodiment of the present invention achieves these sometimes opposing goals by pursuing a set of steps. The steps taken and the concepts presented in this embodiment can best be understood with reference to the attached figures.

[0028] This embodiment of the present invention is intended to be operated in an automated environment. It is especially adaptable to be used as a computer-aided design tool for networks. As such, it is expected that this embodiment will be used in a computer much like that present in FIG. 1.

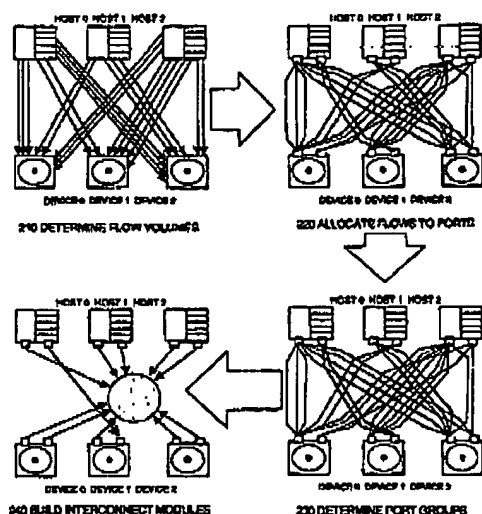


FIGURE 2

[0030] FIG. 2 is a simplified schematic diagram overview of an overall process implemented by this embodiment of the present invention. At the outset, network flow requirements are input, 210, to provide the basis for subsequent decisions. At 220, each flow is assigned to a port on its associated host and to a port on its associated device based on the flow requirements and port capability. The flow-to-port assignment process takes into account the advantages of coalescing certain flows together to form port groups that will ultimately allow for low-cost supporting modules. The port groups partition the host and device ports into disjoint sets and are determined at 230. Then modules, which are appropriate combinations of direct links, hubs and switches, are built to support each port group, 240. Typically, costs are lowest for

direct links, higher for hubs, and higher yet for switches. The module design segment attempts to build modules by selecting the lowest-cost module for each port group. That means it will attempt to meet flow requirements with the least-cost module, hence the attempt to produce as many relatively inexpensive direct links as possible.

[0032] FIG. 3 illustrates, in flowchart form, the overall process of network interconnect fabric design described in this embodiment of the present invention, called here QuickBuilder. QuickBuilder process 300 comprises flow-to-port assignment 310 and module building 340. Using input data 305, flow-to-port assignment 310 determines on which port each flow exits its associated host and on which port each flow enters its associated device. For any given flow, a port assignment defines a unique host port and a unique device port for the flow (See expansion in FIG. 4). Making a port assignment sends the given flow from that host port to that device port. Hosts and devices in general have multiple network ports and so the QuickBuilder process must decide the port of each flow's exit and entry. The term "flow-to-port assignment" is used in this discussion to include the process of defining a port assignment for every flow in the network.

[0033] When a flow-to-port assignment is completed, an evaluation is made, 330, to determine if every flow is assigned to a port group. If not, there are too many flow requirements for the available ports and the problem is not feasible, 389. If all flow requirements are met with port assignments, then an interconnect fabric is built, 340, to accommodate the flow-to-port assignments and the process is complete, 399. Note that 340 is expanded in FIG. 7.

It is submitted that there are several problems with the anticipation rejection over O'Sullivan, specifically:

- O'Sullivan does not receive the requirements for an entire computer network; and
- O'Sullivan does not show generating and sending information to a drawing program, either internal or external, as recited in the generating and sending steps.

These differences, both of which embodies an unmet claim recitation, will be discussed separately.

**O'Sullivan does not receive the requirements for an entire computer network**

As noted above, the first paragraph of claim 1 recites, "receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network". It is submitted that O'Sullivan meets only a portion of this limitation, but does not meet the overall limitation. It is submitted that Webopedia, which bills itself as the number one online encyclopedia dedicated to computer technology, defines a computer network as, "a group of two or more computer systems linked together". It is submitted that O'Sullivan receives input only for the interconnection fabric of the computer network (see the underlining in paragraph [0009] of O'Sullivan above), not for the entire computer network. Portions of the network are already in existence or planned, as seen by the fact that a set of source nodes and a set of terminal nodes (see the underlining in paragraph [0024] of O'Sullivan above) are input to the program of O'Sullivan. Thus, it is submitted that the "receiving" step of this claim is not met by this reference.

**O'Sullivan does not generate and send information to a drawing program**

The rejection noted above that while "any computer-aided design tool would include a drawing program", it is also true that "O'Sullivan does not specifically disclose a drawing program". It is submitted that the rulings cited from the Federal Circuit would specifically preclude the use of what is generally known about design tools in favor of what is explicitly disclosed regarding a design tool such as O'Sullivan. O'Sullivan does not disclose a drawing program, nor does it make any mention of a drawing program, nor does it give any detail about how a drawing program would be implemented. In fact, O'Sullivan does not appear to discuss producing a drawing at all. It is notable that the rejection cites only Figure 2 and paragraph [0028] of O'Sullivan as showing the steps of generating and sending information to a drawing program.

However, these excerpts do not mention the production of a drawing, at all. Rather, they discuss how O'Sullivan determines the interconnection modules to use in the interconnection fabric, in order to keep the costs as low as possible. Thus, it is submitted that O'Sullivan does not meet the claimed steps. The anticipation rejection is believed overcome.

**103(a) over O'Sullivan in view of Flansburg**

The arguments regarding the obviousness rejection over O'Sullivan and Flansburg are based on the following ruling of the Federal Circuit:

All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994).

It is noted that in the alternative rejection over O'Sullivan in view of Flansburg, the office action stated, in addition to the above comments regarding O'Sullivan,

Flansburg discloses a drawing program used in network designs (Col. 5, lines 9-11 and lines 18-21; Col. 2, lines 10-18). Therefore, it would have been obvious to a person of the ordinary skill in the art at the time the invention was made to combine the method for designing a network of O'Sullivan with the method of Flansburg because it would provide an improved system wherein the user is allowed to create, edit, store and distribute graphical diagrams of logical network layouts (Abstract, lines 8-10).<sup>1</sup>

It is further noted that the rejection above does not attribute any particular claimed steps to the cited portions of Flansburg, which are reproduced below. Instead, this patent is apparently cited simply to show a drawing program, noting,

Through the use of a system and method in accordance with the present invention, a user can create, edit store, and distribute graphical diagrams of logical network layouts. The diagrams can be created automatically and then edited and distributed by the user. In addition, the user is able to edit the network diagrams without affecting the current as-built view of the network. Finally, the system and method in accordance with the present invention allows for tracking every network device, passive and active, and provides for associating network devices with the appropriate physical and logical locations, specifications, serial numbers, warranty information, etc.<sup>2</sup> ...

<sup>1</sup> Final office action of 10/20/2004, p.3, ln.18 through p.4, ln.3

<sup>2</sup> Flansburg, col.2, lns.7-18



Instead of utilizing CAD diagrams, a system in accordance with the present invention uses a basic drawing program with an underlying knowledge base. The user picks a device type from a menu, the system creates the device, and the user places it accordingly. However, the user does not have to figure out in which cell in a CAD schematic to place new devices and cabling, but simply assigns them a new location, and the system does the rest. The user can view the network as it was originally configured and then compare it to the network's current state or even a proposed state. These virtual scenarios make designing network changes and expansions easier, providing a quick frame of reference for the designer to evaluate his or her decisions.<sup>3</sup>

It is submitted that the discussion above pointed out three steps that O'Sullivan did not meet. It is submitted that Flansburg does not show these steps either, nor was it apparently cited to show these steps. Flansburg does show a drawing program, but it does not show how information regarding the requirements for a computer network is gathered or how the information to produce a drawing of the proposed computer network is collected and sent to the drawing program.

It is further submitted that these limitations are not shown by either of the cited references, so that the obviousness rejection is overcome.

#### **A2. Claims 5, 12, 19, 26**

In addition to the arguments above, it is submitted that this group of dependent claims recites a further distinction over the prior art. Representative claim 5 recites,

5. (Original) The method as recited in claim 1, further comprising:  
generating, with the drawing program, the drawing of the desired system.

It is submitted that this recitation of a generating step provides further distinctions in the anticipation rejection over O'Sullivan. Not only does the method(/system/product) send information to a drawing program, but the work of the drawing program – to generate a drawing – is positively recited. Thus, this set of claims is separately patentable over O'Sullivan.

#### **A3. Claims 7, 14, 21, 28**

In addition to the arguments above, it is submitted that this group of dependent claims also recites a further distinction over the prior art. Representative claim 7 recites,

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<sup>3</sup> Flansburg, col.5, lns.8-21

7. (Original) The method as recited in claim 1, wherein determining components and connections needed to implement the system that satisfies the user needs comprises referencing a set of policies that must be satisfied in order for the desired system to function properly.

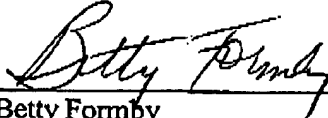
It is submitted that neither O'Sullivan nor Flansburg disclose referencing a set of policies that must be satisfied. In fact, the undersigned agent performed a search within both of these documents for the word policy, policies or a related word; none was found. It is submitted that neither reference shows this limitation and the rejection is overcome for these claims. The Board of Appeals is respectfully requested to overturn this rejection.

**B. GROUND OF REJECTION 2 (Claims 6, 13, 20, and 27)**

Representative claim 6 recites,

6. (Original) The method as recited in claim 1, wherein the desired system is a system to implement web hosting.

It is noted that all of the claims in this rejection are dependent claims. As such, it is asserted that these claims can stand or fall with their independent claims, as argued above. Thus, the rejection of these claims is believed overcome and the Board of Appeals is respectfully requested to overturn the rejection.

  
Betty Formby  
Reg. No. 36,536  
YEE & ASSOCIATES, P.C.  
PO Box 802333  
Dallas, TX 75380  
(972) 385-8777

**CLAIMS APPENDIX**

The text of the claims involved in the appeal are:

1. A method for producing a drawing of components and connections needed to implement a desired system, the method comprising:

receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network;

automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system;

generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system; and

sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system.

2. The method as recited in claim 1, further comprising:

providing at least one graphical user interface for receiving the user needs of the desired system.

5. The method as recited in claim 1, further comprising:  
generating, with the drawing program, the drawing of the desired system.
6. The method as recited in claim 1, wherein the desired system is a system to implement web hosting.
7. The method as recited in claim 1, wherein determining components and connections needed to implement the system that satisfies the user needs comprises referencing a set of policies that must be satisfied in order for the desired system to function properly.

8. A computer program product in a computer readable media for use in a data processing system for producing a drawing of components and connections needed to implement a desired system, the computer program product comprising:

receiving instructions for receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network;

determining instructions for automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system;

generating instructions for generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system; and

sending instructions for sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system.

9. The computer program product as recited in claim 8, further comprising:  
providing instructions for providing at least one graphical user interface for receiving the user needs of the desired system.
12. The computer program product as recited in claim 8, further comprising:  
drawing instructions for generating, with the drawing program, the drawing of the desired system.
13. The computer program product as recited in claim 8, wherein the desired system is a system to implement web hosting.
14. The computer program product as recited in claim 8, wherein determining components and connections needed to implement the system that satisfies the user needs comprises referencing a set of policies that must be satisfied in order for the desired system to function properly.

15. A system for producing a drawing of components and connections needed to implement a desired system, the system comprising:

a receiver which receives instructions for receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network;

a component determination unit which determines instructions for automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system;

an instruction generating unit which generates instructions for generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system; and

a transmitter which sends instructions for sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system.

16. The system as recited in claim 15, further comprising:

a graphical user interface unit which provides at least one graphical user interface for receiving the user needs of the desired system.

19. The system as recited in claim 15, further comprising:  
drawing instructions for generating, with the drawing program, the drawing of the desired system.
20. The system as recited in claim 15, wherein the desired system is a system to implement web hosting.
21. The system as recited in claim 15, wherein determining components and connections needed to implement the system that satisfies the user needs comprises referencing a set of policies that must be satisfied in order for the desired system to function properly.
22. A system for producing a drawing of components and connections needed to implement a desired system, the system comprising:  
receiving means for receiving user needs of the desired system, wherein the user needs describe specified capabilities and performance requirements of the desired system and do not provide schematic details for the desired system, and wherein the desired system is a computer network;  
determining means for automatically determining components and connections needed to implement a system that satisfies the user needs based on the specified capabilities and performance requirements of the desired system and application of one or more system design rules to the specified capabilities and performance requirements of the desired system;

instruction generating means for generating a drawing program input that provides instructions for producing a drawing of the system that satisfies the user needs using the determined components and connections to produce schematic details for the system; and

transmitting means for sending the drawing program input to a drawing program to generate a graphical output of the schematic details for the system.

23. The system as recited in claim 22, further comprising:

interface means for providing at least one graphical user interface for receiving the user needs of the desired system.

26. The system as recited in claim 22, further comprising:

drawing program generating means for generating, with the drawing program, the drawing of the desired system.

27. The system as recited in claim 22, wherein the desired system is a system to implement web hosting.

28. The system as recited in claim 22, wherein determining components and connections needed to implement the system that satisfies the user needs comprises referencing a set of policies that must be satisfied in order for the desired system to function properly.

29. The method as recited in claim 1, wherein the specified capabilities and performance requirements of the desired system comprise at least one of a computer network design type.



customer information, geographic load balancing information, firewall configuration information, network connectivity information, server configuration information, application configuration information, database configuration information, data backup capacity information, load balancing information, and an environment type.

30. The method as recited in claim 1, further comprising:

determining an estimated cost to implement the system; and

presenting a budget and planning estimate to a user based on the estimated cost.

31. The computer program product as recited in claim 8, wherein the specified capabilities and performance requirements of the desired system comprise at least one of a computer network design type, customer information, geographic load balancing information, firewall configuration information, network connectivity information, server configuration information, application configuration information, database configuration information, data backup capacity information, load balancing information, and an environment type.

32. The computer program product as recited in claim 8, further comprising:

determining instructions for determining an estimated cost to implement the system; and

presenting instructions for presenting a budget and planning estimate to a user based on the estimated cost.

33. The system as recited in claim 15, wherein the specified capabilities and performance requirements of the desired system comprise at least one of a computer network design type,

customer information, geographic load balancing information, firewall configuration information, network connectivity information, server configuration information, application configuration information, database configuration information, data backup capacity information, load balancing information, and an environment type.

34. The system as recited in claim 15, further comprising:

determining means for determining an estimated cost to implement the system; and  
presenting means for presenting a budget and planning estimate to a user based on the estimated cost.

35. The system as recited in claim 22, wherein the specified capabilities and performance requirements of the desired system comprise at least one of a computer network design type, customer information, geographic load balancing information, firewall configuration information, network connectivity information, server configuration information, application configuration information, database configuration information, data backup capacity information, load balancing information, and an environment type.

36. The system as recited in claim 22, further comprising:

determining means for determining an estimated cost to implement the system; and  
presenting means for presenting a budget and planning estimate to a user based on the estimated cost.

**EVIDENCE APPENDIX**

There is no evidence to be presented

**RELATED PROCEEDINGS APPENDIX**

There are no related proceedings. (Revise if necessary)